NO MENTION OF MUA screen.

PEOPLES ENERGY CORPORATION
THE PEOPLES GAS LIGHT AND COKE COMPANY

Removal Procedure For Mercury Containing Regulators

Purpose

This document provides procedures for the removal of a house regulator containing mercury.

OSHA Training

Employees who will visually inspect for the presence of mercury shall receive training as required by OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Such training will include informing employees of hazards associated with exposure to mercury, personal protective equipment, safe handling, and any additional material provided in the Material Safety Data Sheet for mercury. This document and the training associated with it comply with this OSHA requirement.

Background

Metallic mercury is a toxic, silvery-white metal that is liquid even at low temperatures. When spilled, mercury breaks up into droplets. These droplets can continue to break up until they are microscopic in size. Furthermore, when mercury evaporates into vapor form, it can't be seen or smelled. Over time, metallic mercury continues to vaporize.

Routes of Entry

Mercury can enter the body through the lungs, skin and digestive system. In most cases of mercury poisoning, exposed individuals inhaled low concentrations of the vapor over extended periods. Absorption through the skin and ingestion may occur when unprotected individuals handle mercury. The most significant exposure route is through inhalation. For this reason careful use of Personal Protective Equipment, thorough decontamination, and good personal hygiene are very important when working with mercury.

Health Effects

If mercury enters the body in sufficient amounts, it may affect the central nervous system, kidneys, and gastrointestinal tract. Mercury poisoning can be acute or chronic.

Individuals with chronic or long term, low level mercury poisoning may develop symptoms such as tremors, irritability, excitability, personality changes, memory loss, headaches, drowsiness, insomnia, weakness, excessive secretion of saliva, perspiration, loss of appetite, and swollen gums. These symptoms may not appear until after exposure of six months or more.

Acute poisoning results from short term, high-level mercury exposure. Such poisoning result in symptoms that develop quickly and may include cough, shortness of breath, chest pain, weakness, digestive disorders, and very sore mouth with excessive

secretion of saliva. Acute poisoning, however, is rare.

Mercury is not classified as a carcinogen. The OSHA exposure limit is 1mg/10 m3 (0.1 mg/m3) that should not be exceeded during the work-day. Exposure to mercury can occur from breathing mercury vapor, ingesting mercury with food, absorption through skin contact, or absorption through eye contact. Using proper handling procedures and protective equipment will minimize or eliminate exposure. Careful use of Personal Protective Equipment, thorough decontamination, and good personal hygiene are very important when working with mercury.

Transportation Guidelines

When transported, mercury is subject to Department of Transportation (DOT) requirements if it exceeds the Reportable Quantity (RQ) of one pound. All units require care in handling and shipping in an effort to maintain the units in an upright position throughout removal activities. It is essential, therefore, that employees be made aware of the unique handling requirements for mercury. Additionally, all necessary steps are to be followed to ensure there are no incidents, such as a mercury spill, especially on customer premises.

Regulator Designated for Replacement

The mercury containing regulator will be removed by personnel trained in this procedure and replaced with a Company approved spring relief pressure. This regulator will be transported from the customer's premise to the Company's Technical Training Center for handling in accordance with the Company's Mercury Management Procedure.

Procedure for Removing of a Mercury-Containing Regulator

Personal Protective Equipment (PPE) and Containment/Labeling Materials

Before the equipment is removed, make sure the following equipment is available on site for each person assigned to perform the removal of the regulator.

Pair of nitrile chemical gloves (SI# 89803) or vinyl gloves (SI#89800)
Goggles (SI# 74254)
Metal pan
5 gallon metal container with removable lid.
30 gallon metal container with removable lid.
Vermiculite
Black/White Hazardous Material--Corrosive label for bucket marking contents as mercury-containing equipment
Assortment of "X-pander" plugs, pipe plugs, and caps necessary to close all outlets to mercury-containing devices
A long sleeve shirt must be worn on all removal activities.

Use of Personal Protective Equipment (PPE)

The use of goggles and nitrile gloves or vinyl gloves and long sleeve shirts will be

required for equipment removal activities, even if the equipment appears to be in good condition. The prescribed PPE will prevent contact with the skin and eyes in the event leakage occurs during handling.

Gloves shall be removed carefully, preventing contact with any mercury present. To do this, each glove must be peeled from the hand so it is inside out. The gloves shall be placed inside the bucket or storage tube for future disposal. Employees must adhere to good hygiene practices and clean their hands with waterless hand cleaner and disposable towels immediately after each removal process.

Removal Procedure

1. **Put on goggles, nitrile or vinyl gloves and wear a long sleeve shirt.**
   Goggles, nitrile or vinyl gloves, and a long sleeve shirt must be worn during all phases of the retirement process. Use of a dust/mask respirator is not required unless the employee is involved in the cleanup of a mercury spill.

2. **Shut off or cut-off the gas supply and/or any source of pressure.**
   Shut off the supply of gas and/or any source of pressure at the lock-wing gas service valve or outside the building on the service pipe.

3. **Position the metal pan under the regulator to be removed .**
   Position the metal pan under the unit to be retired so as to contain the mercury should an inadvertent spill occur. A ¼" to ½" layer of vermiculite should be present in the bottom of pan.

Note: **Carefully disconnect the house piping using existing unions, Dresser couplings or by cutting with a 4-wheeled pipe cutter or hacksaw. Do not rotate (unscrew) the body of the regulator. The entire regulator must be removed intact and placed in the 30 gallon shipping container.**

4. **Tap the vent line with a wrench, then disconnect and plug the vent line and opening.**

   Tap any vent line with a wrench to dislodge any mercury in the line. Disconnect the vent line from the unit at the unit vent line opening and install plugs in the vent line and unit vent opening. If the unit must be cut out, use wheel cutters. If possible, avoid using a hacksaw to avoid excess vibration.

5. **Disconnect and plug the unit outlet.**
   Disconnect the outlet side of the unit and install a plug in the outlet opening.

6. **Remove the unit from the inlet piping and plug the inlet opening; then seal all other openings.**
   Carefully remove the unit from the inlet piping and install a plug in the inlet opening. Seal all other openings with pipe plugs, caps, or "X-pander" plugs.

7. **Place the plugged regulator in the 5 gallon container or 30 gallon container, empty the metal pan and transport.**
   After placing the plugged regulator in the 5 gallon container (use the 30 gallon if the regulator configuration is to large for the smaller container), place the metal pan inside of a plastic bag. When the bag is closed, turn the pan over so that the

vermiculite material is poured from the pan into the bag. Tap the bottom of the inverted pan to aid in the release of the vermiculite material. Carefully open the bag and remove the pan. Close the bag of vermiculite material and place it into the container . Seal the container and carefully carry it to the Company vehicle for transport to the Technical Training Center.

8. **Install a new gas regulator and reconnect the customers piping and appliances according to standard Company procedures.**

DOT Requirements for Shipping Mercury-Containing Equipment

To assure compliance with DOT requirements, all mercury-containing regulators with more than the Reportable Quantity (RQ) of one pound mercury, must be transported in the following manner:

1. Via Company truck and certified driver

Any driver transporting hazardous material must possess a CDL with a HM endorsement.

2. Shipping paper required

For shipment of a hazardous material, the transporter provides the following information:

- Shipper's and Receiver's names and addresses
- Description of hazardous material
- DOT Hazard Class
- Quantity of material shipped

3. Hazardous materials description and proper shipping names

Proper shipping description of the hazardous material includes:

- Mercury contained in manufactured articles
- Hazard Class 8
- UN 2809
- Packing Group I
- Label ("Corrosive")
- Packaging author--164
- Quantity limitations—none

Spills

If proper planning and control measures are employed, containment and clean up of a spill should never be necessary. Employees must plan each operation to avoid spills and therefore potential contamination of the surrounding area. Plan the work carefully and take all necessary precautions to keep any spill in as small an area as possible until the spill can be cleaned up properly. Always keep spills away from sewers, drains, manholes, ditches or waterways.

If a spill occurs beyond the containment pan, immediate apply mercury vapor suppressants and have the supervisor arrange for an immediate clean-up.